ABSTRACT

Loran-C (Long Range Navigation) system uses Time Difference as a parameter in procedure for determining user position. Time Difference is influenced by positions of each transmitter stations and user position, and there is additional time for coding delay. Although the utilization of Time Difference is possible to be done directly, but this process can not represent the chain's real condition specifically. Therefore, it is needed to convert Loran-C Time Difference to an universal instrument, which is longitude-latitude coordinate.

In this research, the process of converting Time Difference to longitude-latitude coordinate uses Razin method. Having a better result, non-iteration calculation should compensate the fact that the earth is not sphere completely, and the un-constancy of propagated Loran-C signal. Non-iteration solution will represent relation between received Time Difference with distance from transmitter stations to user position, and then will produce a set of equations to determine user position.

Key words: Loran-C, position, Time Difference, longitude-latitude.